

CONFIDENTIAL

-69-

**Expression of Endogenous Genes by
Non-homologous Recombination
of a Vector Construct With Cellular DNA**

Abstract

5 The field of the invention is activating gene expression or causing
over-expression of a gene by recombination methods *in situ*. The invention
relates to expressing an endogenous gene in a cell at levels higher than those
normally found in the cell. Expression of the gene is activated or increased
10 following integration, by non-homologous or illegitimate recombination, of a *vector*
regulatory sequence that activates expression of the gene. The method allows the
identification and expression of genes undiscoverable by current methods since
no target sequence is necessary for integration. Thus, gene products associated
with human disease and development are obtainable from genes that have not
been sequenced and indeed, whose existence is unknown, as well as from
15 well-characterized genes. The methods provide gene products from such genes
for therapeutic and diagnostic purposes. *In one embodiment*
the vector contains a promoter, exon, and
splice donor sequence, the exon being
derived from a eucaryotic gene.

A138-03.WPD

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